

**Notice of Allowability**

Application No.

10/502,306

Examiner

Satyanarayana R. Gudibande

Applicant(s)

KORPELA ET AL.

Art Unit

1654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12/15/06.
2. ☒ The allowed claim(s) is/are 7-10, 19 and 20.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date 5/31/05
- ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
- ☐ Notice of Informal Patent Application
- ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
- ☒ Examiner's Amendment/Comment
- ☒ Examiner's Statement of Reasons for Allowance
- ☐ Other \_\_\_\_\_

  
**ANSH GUPTA**  
**PRIMARY EXAMINER**

## DETAILED ACTION

### EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Ms. Susanne Somersalo on 3/16/07.

Please amend the claims as follows:

Cancel claims 11-18.

7. (Previously amended) A pentarphin molecule consisting of a structure of cyclo (Val-Lys-Gly-Phe-Tyr) and further being called as cyclopentarphin.

8. (Currently amended) A drug composition ~~for increasing activity and/or concentration of macrophages and/or T-lymphocytes in a mammal body, said drug composition comprising pentarphin molecule sequence Val Lys Gly Phe Tyr in a linear or in a cyclic form and said pentarphin molecule having~~ consisting of the amino acid sequence according to SEQ ID NO: 4.

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9. (Previously amended) The drug composition according to claim 8, wherein the composition additionally contains at least one conventional antibiotic.

10. (Previously amended) The drug composition according to claim 9, wherein the conventional antibiotic is streptomycin.

19. (Amended) A cell cultivation medium for mammal cell cultivation, said cultivation further containing macrophages, said cultivation medium further comprising pentarphin molecules ~~having~~ consisting of the amino acid sequence according to SEQ ID NO: 4s and ~~further~~ having a ~~linear or~~ cyclic structure at concentrations less than 10mg/l.

20. (New) The cell cultivation medium according to claim 19, wherein the medium additionally contains antibiotics.

### ***Reasons for allowance***

The following is an examiner's statement of reasons for allowance:

The closest prior art, Zavyalov, et al., Immunology Letters, 1996, 49, 21-26 teaches the receptor binding properties of peptides corresponding to the  $\beta$ -endorphin-like sequence of human immunoglobulin G. The reference discloses a pentapeptide Val- Lys-Gly-Phe-Tyr in the linear form (Page 25, table 1). However, the prior art does not teach or suggest, alone or in combination, the instantly claimed Val- Lys-Gly-Phe-Tyr (pentapeptide) of the instant application in the cyclic form. The prior art does neither teach nor suggest cyclizing the linear peptide. While cyclization

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of linear peptides is known in the art, cyclization of the claimed peptide without an express teaching or suggestion in the prior art would amount to hindsight reconstruction.

The closest prior art, Navoloyskaya, et al., Peptides, 2001, 22, 2009-2013 teaches the synthetic  $\beta$ -endorphin-like peptide immunomorphin binding to non-opioid receptors for  $\beta$ -endorphin on T-lymphocytes. The reference discloses a pentapeptide Val- Lys-Gly-Phe-Tyr in the linear form (page 2011, table 1 and elsewhere in the document). However, the prior art does not teach or suggest, alone or in combination, the instantly claimed Val- Lys-Gly-Phe-Tyr (pentapeptide) of the present application in the cyclic form. The prior art does neither teach nor suggest cyclizing the linear peptide. While cyclization of linear peptides is known in the art, cyclization of the claimed peptide without an express teaching or suggestion in the prior art would amount to hindsight reconstruction.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

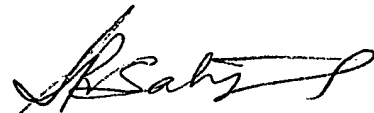
### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Satyanarayana R. Gudibande whose telephone number is 571-272-8146. The examiner can normally be reached on M-F 8-4.30.

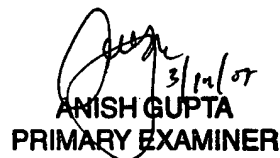
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cecilia Tsang can be reached on 571-272-0562. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Satyanarayana R. Gudibande, Ph.D.  
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3/14/07  
**ANISH GUPTA**  
**PRIMARY EXAMINER**